

U.S.C.G. Merchant Marine Exam

Master TV to Master Less than 500 Gross Registered Tons
Great Lakes and Inland

Q326 Navigation and Deck General – Safety

(Sample Examination)

Choose the best answer to the following Multiple-Choice Questions.

1. How does a drift lead indicate that the vessel is dragging anchor?

- A. The line is taut and leading forward
- B. The line is slack and motionless
- C. The line is taut and leading under the hull
- D. The line is leading out perpendicular to the centerline

Correct answer: A

2. A tank vessel transferring non-flammable hazardous cargo in bulk must display warning signs. These signs must _____.

- A. be visible from both sides and from forward and aft
- B. use black lettering on a white background
- C. be displayed only while transferring cargo and fast to a dock
- D. indicate "NO SMOKING"

Correct answer: B

3. Which of the following statements is/are TRUE in regard to Ro-Ro vessels' spaces that are "specially suitable for vehicles"?

- A. The spaces are prohibited from being fitted with fixed CO₂ fire extinguishing systems.
- B. The spaces shall have designated smoking areas.
- C. The spaces shall be fitted with an approved fire or smoke detecting system.
- D. All of the above

Correct answer: C

4. Fire hose stations shall be marked in red letters and figures such as Fire Station No. "1", "2", "3", etc. Which is the minimum height of the letters and figures required by regulation?

- A. 1/2 inch
- B. 1 inch
- C. 1-1/2 inches
- D. 2 inches

Correct answer: D

5. You are using the anchor to steady the bow while maneuvering. When do you know you have the proper scope of anchor cable out?

- A. When the anchor is just touching the bottom
- B. If the scope is not more than 5 times the depth of the water
- C. When the bow is held in position with the engines coming slowly ahead
- D. When the cable enters the water at an angle between 60° and 85° from the horizontal

Correct answer: C

6. At the magnetic equator there is no induced magnetism in the vertical soft iron because _____.
- A. the quadrantal error is 0°
 - B. the intercardinal headings have less than 1° error
 - C. there is no vertical component of the Earth's magnetic field
 - D. the lines of force cross the equator on a 0°-180° alignment

Correct answer: C

7. Which is the BEST way for a twin-screw vessel to clear the inboard propeller and maneuver off a pier?
- A. Hold the forward spring line and going slow ahead on the inboard engine
 - B. Hold the forward spring line and going slow ahead on the outboard engine
 - C. Hold the forward spring line and going slow ahead on both engines
 - D. Hold the after-spring line and going slow astern on the outboard engine

Correct answer: B

8. If a hydraulic pump on a winch accidentally stops while hoisting, the load will stay suspended because _____.
- A. the control lever will move to the stop position
 - B. a centrifugal counterweight counteracts the force of gravity
 - C. the electric pump motor will cut out
 - D. a check valve will close and prevent reverse circulation

Correct answer: D

9. You are docking a vessel in a slip which has its entrance athwart the tide. You land the ship across the end of the pier, stemming the tide, preparatory to breaking the ship around the corner. You have one tug to assist. Where would you generally tie up the tug?
- A. Tie her up on the inshore bow to hold the ship off the end.
 - B. Have her on a hawser from the stern.
 - C. Tie her up on the offshore bow.
 - D. Tie her up on the inshore quarter to lift the stern.

Correct answer: C

10. Who is responsible for establishing watches aboard a U.S. vessel?
- A. The Master of the vessel
 - B. The company that operates the vessel
 - C. The company that charters the vessel
 - D. The owner of the vessel

Correct answer: A

11. Which item may be substituted for, in the fireman's outfit, on a cargo vessel?

- A. Rigid helmet
- B. Fire ax
- C. Flame safety lamp
- D. Flashlight

Correct answer: C

12. On an inspected vessel, which abbreviation refers to the horizontal distance between perpendiculars taken at the forward-most and the after-most points on the waterline at her deepest operating draft?

- A. LBP
- B. LLL
- C. LOA
- D. LWL

Correct answer: A

13. Regulations require which action to be performed prior to the vessel departing on a voyage more than 48 hours long?

- A. The emergency generator and lighting system be tested by starting and operating within 12 hours prior to departure
- B. A lifeboat drill be held within 12 hours prior to departure
- C. The entire steering gear be tested within 12 hours prior to departure
- D. The fire pumps be tested by starting within 12 hours prior to departure

Correct answer: C

14. Which action(s) is/are included in crane operations?

- A. Removing booms from stowage
- B. Pre-operation checks and start-up
- C. Luff, slew, and hoist operations
- D. All of the above

Correct answer: D

15. Your vessel has an injured crew member onboard that will require evacuation. Which of the following publications should you review for the procedures in conducting rescue/medivac helicopter operations?

- A. Pub 117 Radio Aids to Navigation
- B. International Maritime Organization Life-Saving Appliance Code Manual
- C. International Aeronautical and Maritime Search and Rescue Manual
- D. Merchant Marine Officers Handbook

Correct answer: C

16. What prevents water running along the shaft of a leaking centrifugal pump from entering the shaft bearing?

- A. Water flinger
- B. Shaft seal
- C. Lantern ring
- D. Drain hole

Correct answer: A

17. Which is an advantage of using watertight longitudinal divisions in double bottom tanks?

- A. Cuts down free surface effect
- B. Lowers the center of buoyancy without decreasing GM
- C. Decreases weight because extra stiffeners are unneeded
- D. Increases the rolling period

Correct answer: A

18. Your vessel is backing on the starboard screw, and going ahead on the port screw. How will the vessel react?

- A. It will back on a straight line
- B. It will move ahead on a straight line
- C. It will swing the bow to port
- D. It will swing the bow to starboard

Correct answer: D

19. What are the required number and type of hand portable fire extinguishers to be carried, in the vicinity of the radio room exit, on a tank vessel on an international voyage?

- A. One B-I or post 2017 One 10-B:C
- B. One B-II or post 2017 One 40-B
- C. One C-I or post 2017 One 10-C
- D. One C-II or post 2017 One 20-B:C

Correct answer: D

20. You are the Master of a single-screw vessel. You are docking at a port which has no tugs available. You decide to drop the offshore anchor to help in docking. How much chain should you out?

- A. 5 to 7 times the depth of the water
- B. NEVER use the anchor to help in docking
- C. 1 1/2 times the depth of the water to the hawsepole
- D. Equal to the depth of the water

Correct answer: C

21. Where, due to the arrangement of the vessel, lifejackets may become inaccessible, which is TRUE of the required additional lifejackets?
- A. Required for 50% of the crew of the vessel, not including those assigned to engineering duties
 - B. They are only for the people on bridge watch
 - C. They will be stowed in the forward lifeboats
 - D. The additional lifejackets will be stowed as determined by the OCMI

Correct answer: D

22. When anchoring, good practice requires 5 to 7 fathoms of chain for each fathom of depth. Which is TRUE when anchoring in deep water?
- A. Use the same ratio
 - B. Use two anchors with the same ratio of chain
 - C. Use less chain for each fathom of depth
 - D. Veer more chain for each fathom of depth

Correct answer: C

23. When picking up your mooring at the buoy, which is the correct method?
- A. Approach the buoy with the wind and current ahead
 - B. Approach the buoy with wind and sea abeam
 - C. Approach the buoy with the wind and current astern
 - D. Stop upwind and up current and drift down on the buoy

Correct answer: A

24. Considering the manning requirements for U.S. vessels, your three-watch cargo vessel has a deck crew of 20 people, exclusive of the officers. How many of these people do the manning regulations require to be Able Seamen?
- A. 7
 - B. 10
 - C. 13
 - D. 5

Correct answer: C

25. By convention, what color is the north seeking end of a compass' magnet?
- A. Blue
 - B. White
 - C. Black
 - D. Red

Correct answer: D

26. Which type of bottom is best suited for holding an anchor of a small boat?

- A. Rocky
- B. Sandy
- C. Mud and clay
- D. Gravel

Correct answer: C

27. Sweat damage will occur in a non-ventilated cargo hold containing cased machinery when which condition exists?

- A. The air temperature of the hold is higher than the temperature of the outside air
- B. The outside air temperature is colder than the temperature of the cargo
- C. The dew point of the outside air is lower than the temperature of the cargo
- D. The dew point of the hold is higher than the temperature of the ship's skin

Correct answer: D

28. When bunkering at anchorage which of the following signals must be displayed?

- A. A red light by night ONLY
- B. A red flag by day ONLY
- C. A red flag by day, red light by night
- D. No signal required at anchorage

Correct answer: B

29. You are picking up an unconscious person that has fallen overboard in a fresh breeze. For safety reasons how should a small craft approach?

- A. With the wind on your port side
- B. With the victim to leeward
- C. With the wind on your starboard side
- D. With the victim to windward

Correct answer: D

30. You are approaching a disabled vessel in order to remove survivors from it. If your vessel drifts faster than the disabled vessel, how should you make your approach?

- A. To leeward of the disabled vessel
- B. At three times the drifting speed of the disabled vessel
- C. To windward of the disabled vessel
- D. Directly astern of the disabled vessel

Correct answer: C

31. A tug should not come alongside a tank vessel in way of its cargo tanks while it is loading grade A, B, or C cargo without the permission of the _____.
- A. superintendent of the shoreside facility
 - B. person in charge of the transfer
 - C. local fire department
 - D. cognizant OCMI

Correct answer: B

32. Which statement is TRUE regarding the Emergency Position Indicating Radio beacon (EPIRB)?
- A. EPIRBs shall be secured inside the wheelhouse
 - B. EPIRBs shall be tested monthly
 - C. EPIRBs are only required to be tested annually
 - D. EPIRBs secured in the emergency locker

Correct answer: B

33. Who carries the total responsibility for shipping and discharging the seamen on a vessel?
- A. Master of the vessel
 - B. Steamship company
 - C. U.S. Custom Service
 - D. U.S. Coast Guard

Correct answer: A

34. A heated bulkhead has which effect on a hygroscopic commodity?
- A. It raises the vapor pressure of the commodity
 - B. Causes moisture to accumulate against the bulkhead
 - C. It lowers the vapor pressure of the commodity
 - D. It will lower the dew point of the air

Correct answer: A

35. Bilge keels are more effective at dampening rolls under which condition?
- A. Rolling increases
 - B. Pitching increases
 - C. Draft decreases
 - D. List increases

Correct answer: A

36. Which is TRUE if the compass error of a magnetic compass has no deviation?
- A. The compass error is constant at any geographical location
 - B. The compass error is equal to variation
 - C. The compass error equals zero
 - D. The compass error is eliminated by adjusting the compass

Correct answer: B

37. Which of the following statements is TRUE regarding crane operations?

- A. The aft cranes can be operated from the aft steering station.
- B. The crane operators and signalman must be familiar with the correct hand signals.
- C. Radio communications allow the crane operator to disregard the use of hand signals.
- D. The forward cranes can be operated from the bridge.

Correct answer: B

38. Which statement about tunnel bow thrusters fitted to large vessels is TRUE?

- A. They are fully effective at all drafts.
- B. When going astern at slow speed, they provide effective steering control.
- C. Because of their location, most modern installations have as much power as a tug.
- D. They are effective on most vessels at speeds up to 10 knots.

Correct answer: B

39. Which condition must be met during a stability test on an inspected vessel?

- A. All dunnage, tools, and extraneous items are secured
- B. Each tank must be partially full to show it does not leak
- C. Water under vessel must be deep enough to prevent grounding
- D. The vessel must be moored snugly

Correct answer: C

40. While anchoring your vessel, when is the best time to let go the anchor?

- A. When the vessel is dead in the water
- B. When the vessel is moving fast astern over the ground
- C. When the vessel is moving fast ahead over the ground
- D. When the vessel is moving slowly astern over the ground

Correct answer: D

41. What is the reaction of a gyrocompass to an applied force known as?

- A. Precession
- B. Gravity effect
- C. Earth rate
- D. Gyroscopic inertia

Correct answer: A

42. If you reach shore in a liferaft, the first thing to do is _____.

- A. drag the raft ashore and lash it down for a shelter
- B. set the raft back out to sea so someone may spot it
- C. get the provisions out of the raft
- D. find some wood for a fire

Correct answer: A

43. On a small boat, if someone fell overboard and you did not know over which side the person fell, which action should you take?
- A. Stop the propellers from turning and throw a ring buoy over the side
 - B. Immediately reverse the engines
 - C. First put the rudder hard over in either direction
 - D. Increase speed to full to get the vessel away from the person

Correct answer: A

44. The spin axis of a gyroscope tends to remain fixed in space in the direction in which it is started. How does this gyroscope become north seeking so that it can be used as a compass?
- A. By starting the compass with the spin axis in a north/south position
 - B. By mechanically or electrically applying forces to precess the gyroscope
 - C. The rotation of the Earth (Earth rate) automatically aligns the gyroscope with north, except for speed errors
 - D. By taking advantage of the property of gyroscopic inertia

Correct answer: B

45. When is a vessel tide rode?
- A. When the vessel is carrying extra rudder to compensate for the current
 - B. When the vessel is at anchor and stemming the current
 - C. When it is necessary to adjust the course steered to allow for the current
 - D. When the vessel is being forced off of a pier by the hydraulic effect of the current

Correct answer: B

46. You are docking a vessel. When are the wind and current most favorable in this situation?
- A. When they are crossing your course, in opposite directions to the other
 - B. When they are both setting you on the pier
 - C. When they are both parallel to the pier from ahead
 - D. When they are crossing your course, both in the same direction

Correct answer: C

47. To reduce the number of strakes at the bow, two strakes are tapered and joined at their ends by a single plate. What is the name of this plate?
- A. Stealer plate
 - B. Joiner
 - C. Cover plate
 - D. Lap strake

Correct answer: A

48. Which signaling devices are required on inflatable liferafts?

- A. Very pistol
- B. Orange smoke signal
- C. Air horn
- D. Lantern

Correct answer: B

49. The most likely location for a liquid cargo fire to occur on a tanker would be _____.

- A. in the pumproom
- B. in the midships house
- C. at the main deck manifold
- D. at the vent header

Correct answer: A

50. You are docking a ship with a single-screw tug assisting on your starboard bow. How should the tug be tied up if you are anticipating that she will have to hold your bow off while you stem the current?

- A. The tug should put a spring line up, leading astern on the ship.
- B. The tug would need at least two head lines.
- C. One head line would be sufficient.
- D. The tug should put a stern line up, leading ahead on the ship.

Correct answer: D

51. Which organization would conduct a survey of the insulation in a reefer compartment prior to loading cargo?

- A. OSHA
- B. National Cargo Bureau
- C. American Bureau of Shipping
- D. U.S. Customs Service

Correct answer: C

52. If you are bunkering and you close off one tank in the line of tanks being filled, what happens to the rate of flow to other open tanks on the same line?

- A. The rate of flow stops to the open tanks
- B. The rate of flow increases to the open tanks
- C. The rate of flow remains constant to the open tanks
- D. The rate of flow decreases to the open tanks

Correct answer: B

53. What is the purpose of a check valve?

- A. Regulates liquid flow
- B. Passes air but not liquid
- C. Permits flow in one direction only
- D. Passes liquid but not air

Correct answer: C

54. Under the Carriage of Goods by Sea Act of 1936, a vessel will be liable for damage to cargo when the damage arises out of which situation?
- A. The poor stowage of cargo in a container
 - B. Overloading the vessel
 - C. A fire caused by lightning
 - D. Inherent vice

Correct answer: B

55. What is the function of an air receiver in the compressed air system?
- A. Utilized to store compressed air
 - B. Condenses moisture
 - C. Purifies the air
 - D. Provides overpressure protection

Correct answer: A

56. Which statement is TRUE to back a right-handed, single-screw vessel in a straight line?
- A. Use some left rudder
 - B. Use very little rudder
 - C. Use some right rudder
 - D. Use full left rudder

Correct answer: C

57. In a foreign port with a consulate, the U.S. Consul may excuse the Master from personally appearing before him to consent to the mutual release of an injured seaman, under which circumstance?
- A. If the seaman also consents to the absence, and there is no dispute as to the wages due
 - B. If the Master authorizes the agent to act in his place
 - C. If the injury requires immediate inpatient hospitalization of the seaman
 - D. When the ship is still in port and the seaman can appear before the Consul after medical treatment

Correct answer: C

58. The galley on your cargo vessel has an area of 2,500 square feet. Which of the following would fulfill the minimum requirements for fire protection?
- A. One A-II extinguisher or post 2017 One 2-A extinguisher
 - B. One B-II extinguisher or post 2017 One 40-B:C extinguisher
 - C. One B-II and One C-II extinguisher or post 2017 One 40-B and One 40-C extinguisher
 - D. One B-V extinguisher or post 2017 One 160-B extinguisher

Correct answer: B

59. A seaman is entitled by law to a release from Foreign Articles when which situation has occurred?

- A. He/she is intoxicated
- B. The vessel is overloaded
- C. There is a change of Master
- D. There is a change of home port

Correct answer: B

60. Instructions to the crew in the use of all the ship's fire-extinguishing and lifesaving equipment shall be completed within which time frame?

- A. Before sailing
- B. Within one week of sailing
- C. Within any two month period
- D. Within one month and repeated quarterly

Correct answer: C

61. Who is responsible for the revision of muster lists?

- A. The United States Coast Guard
- B. The Master of the vessel
- C. The Chief Officer of the vessel
- D. The owner of the vessel

Correct answer: B

62. What is the space above the engine room called?

- A. Fidley
- B. Gold locker
- C. Noble
- D. Middle hatch

Correct answer: A

63. Which term is used to describe the projecting lugs of the rudderpost which furnish support to the rudder?

- A. Pintles
- B. Rudder lugs
- C. Gudgeons
- D. Bases

Correct answer: C

64. You are on watch and see a man fall overboard. Which man overboard turn should NOT be used in this situation?

- A. Racetrack
- B. Single turn
- C. Williamson
- D. Scharnow

Correct answer: D

65. What is the maximum length of time that distress flares are approved for?

- A. 1 and 1/2 years
- B. 2 years
- C. 3 and 1/2 years
- D. 5 years

Correct answer: C

66. What must change for the compass deviation to change?

- A. The longitude of the vessel
- B. The speed of the vessel
- C. The geographical position of the vessel
- D. The heading of the vessel

Correct answer: D

67. The Officers Competency Certificates Convention of 1936 applies to all of these vessels operating seaward of the boundary line. Which vessel is exempt?

- A. A passenger vessel of 295 gross tons
- B. An uninspected towing vessel of less than 200 gross tons
- C. An offshore supply vessel over 200 gross tons
- D. An inspected towing vessel of 305 gross tons

Correct answer: B

68. The greatest horizontal stress between the heads of the booms in the yard and stay rig occurs when the load is in such a position that the _____.

- A. falls are vertical
- B. falls are at a 120 degree angle
- C. falls are at a 90 degree angle
- D. falls are at an equal angle to the horizontal

Correct answer: D

69. Where must a pressure gauge for each fire pump on a tankship be located?

- A. At the manifold connection
- B. At the pump station
- C. At the pump discharge
- D. At each fire station discharge

Correct answer: C

70. On an inspected vessel, when may a stability test be dispensed with?

- A. The vessel is of a proven design
- B. The projected cost is unreasonable
- C. Coast Guard does not have a qualified inspector available
- D. Coast Guard has the approved stability test results of a sister vessel

Correct answer: D